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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,769	03/06/2002	Sung-Won Lee	678-815 (P10194)	6830

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EXAMINER

WONG, WARNER

ART UNIT	PAPER NUMBER
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2616

DATE MAILED: 07/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

4

Office Action Summary	Application No.	Applicant(s)	
	10/091,769	LEE, SUNG-WON	
	Examiner	Art Unit	
	Warner Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Wegrzyn (US 5,729,540).

Regarding claim 1, Wegrzyn teaches a packet service method for a base station controller (BSC) in a mobile communication system, comprising the steps of:

receiving a packet (col. 5, lines 9-28, input message means a packet) to be transmitted for a mobile station (MS) (col. 9, lines 44-67, and col. 3, lines 23-45, mobile unit means MS) ;

adding a field containing time information allowing a base station transceiver sub-system (BTS) to transmit the packet to the MS on a radio link within a valid time necessary for packet transmission on a radio link (col. 4, lines 48-67, transmission link 18 or 20 means a radio link) to the received packet (col. 10, lines 54-65, and col. 2, lines 31-48, a time stamp means a field containing time information);

transmitting the packet including the field, wherein the BTS is connected to the MS in a handoff state (Fig. 1, Fig. 2, Fig. 4, col. 9, lines 44-67, and col. 4, lines 48-67,

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" a channel element (CE) 22 contains items 24, 26, 28, 30, 32 " means a base station transceiver sub-system (BTS), where the plurality of CE (BTS) is connected to one mobile units 16, i.e. handoff state, col. 4, lines 48-57).

Regarding claim 2. Wegrzyn teaches the packet service method of claim 1, further comprising the steps of:

determining whether a sequence number is to be used for the packet transmission (see col. 8, lines 11-65, and col. 24, lines 31-44.); and adding a field containing the sequence number of the packet to the packet if it is determined that the sequence number is to be used (see col. 8, line 11 to col. 9, line 5.).

Regarding claim 3, Wegrzyn teaches the packet service method of claim 1, wherein the time information is an action time when the packet is to be transmitted on the radio link (col. 6, lines 56-67, col. 10, lines 54-67, and col. 33, lines 42-45,).

Regarding claim 4, Wegrzyn teaches the packet service method of claim 1, wherein the time information includes an action time when the packet is to be transmitted on the radio link (col. 6, lines 56-67, col. 10, lines 54-67, and col. 33, lines 42-45) and a waiting time for which the packet waits to be transmitted until there is an available radio link (col. 13, line 55-to-col. 14, line 13, and col. 11, lines 37-52, the processing resource means a radio link).

Regarding claim 5, Wegrzyn teaches a packet service method for a base station transceiver sub-system (BTS) in a mobile communication system, comprising the steps of:

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storing a packet received from a base station controller (BSC) col. 9, lines 44-673;

determining whether a current time is an action time when the received packet is to be transmitted based on time information set in a predetermined field of the packet (col. 6, lines 56-67, col. 10, lines 54-67, and col. 33, lines 42-45);

transmitting the packet to a mobile station (MS) on a radio link if the current time is an action time (col. 4, lines 48-67 and col. 8, lines 11-29);

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Regarding claim 6, Wegrzyn teaches the packet service method of claim 5, wherein the action time is a time set in the predetermined field of the packet (see col. 33, lines 42-45.).

Regarding claim 7, Wegrzyn teaches the packet service method of claim 5, wherein the action time is sum of a time set in the predetermined field of the packet and a pre-negotiated time (see col. 35, lines 44-67.).

Regarding claim 8, Wegrzyn teaches a packet service method for a base station transceiver sub-system (BTS) in a mobile communication system, comprising the steps of:

storing a packet received from a base station controller (BSC) (see col. 9, lines 63-67, Overhead message means a packet);

determining whether there is a available radio link (col. 11, lines 37-52, the processing resource means a radio link);

transmitting the packet to a mobile station (MS) on a radio link if there is a available radio link (see col. 8, lines 11-29);

determining whether a waiting time set in a predetermined field of the packet has expired if there is no available radio link (see col. 11, lines 12-52);

discarding the packet if the waiting time has expired and determining whether there is an available radio link if the waiting time has not expired (see col. 20, lines 19-35);

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Regarding claim 9, Wegrzyn teaches a packet service method for a base station transceiver sub-system (BTS) in a mobile communication system, comprising the steps of:

storing a packet received from a base station controller (BSC) (col. 9, lines 63-67, overhead message means a packet);

determining whether a waiting time set in a predetermined field of the packet has expired (col. 10, line 3s-to-col. 11, lines 21);

discarding the packet if the waiting time has expired and determining whether there is an available radio link if the waiting time has not expired (see col. 20, lines 19-35);

determining whether the waiting time has expired if there is no available radio link (see col. 11, lines 12-52) and determining whether the current time is an action time based on the time information if there is an available radio link (col. 6, lines 56-67, col. 10, lines 54-67, and col. 33, lines 42-45.);

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transmitting the packet to a mobile station (MS) on the radio link at the action time (col. 4, lines 48-67 and col. 8, lines 11-29) and determining whether the waiting time has expired if the current time is not the action time (see col. 10, line 3s-to-col. 11, lines 21);

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Regarding claim 10, Wegrzyn teaches the packet service method of claim 9, wherein the action time is sum of a time set in the predetermined field of the packet (see col. 35, lines 44-67 and col. 33, lines 42-45).

Regarding claim 11, Wegrzyn teaches the packet service method of claim 9, wherein the action time is sum of a time set in the predetermined field of the packet and a pre-negotiated time (see col. 35, lines 44-67).

Regarding claim 12, Wegrzyn teaches a packet service method for a base station controller (BSC) in a mobile communication system, comprising the steps of: receiving a packet (see col. 5, lines 9-28, input message means a packet) to be transmitted for a mobile station (MS) (see col. 9, lines 44-67, and col. 3, lines 23-45, mobile unit means mobile station (MS)) ;

determining whether a sequence number is to be used for the packet (see col. 8, lines 11-65, and col. 24, lines 31-44);

adding a field containing the sequence number of the packet to the packet if it is determined that the sequence number is to be used (see col. 21, lines 29-58);

transmitting the packet including the field to a base station transceiver subsystem (BTS) (see Fig. J, Fig. 2, Fig. 4, col. 9, lines 44-67, and col. 4, lines 48-67, ff a

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channel element (CE) 22 contains items 24, 26, 28, 30, 32 " means a base station transceiver sub-system (BTS));

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Regarding claim 13, Wegrzyn teaches a packet service method for a base station transceiver sub-system (BTS) in a mobile communication system, comprising the steps of:

storing a packet received from a mobile station (MS) col. 9, lines 44-67);

determining whether a sequence number is to be used for the packet (see col. 8, lines 11-65, and col. 24, lines 31-44);

adding a field containing the sequence number of the packet to the packet if it is determined that the sequence number is to be used (see col. 21, lines 29-58);

transmitting the packet including the field to a base station controller (BSC) (see Fig. 1, Fig. 2, Fig. 4, col. 9, lines 44-67, and col. 4, lines 48-67);

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Regarding claim 14, Wegrzyn teaches a packet service method for a base station controller (BSC) in a mobile communication system, comprising the steps of: storing a packet received from a Base station Transceiver Sub-system (BTS) col. 9, lines 44-67);

determining whether a current time is an action time based on a predetermined period (col. 6, lines 56-67, col. 10, lines 54-67, and col. 33, lines 42-45);

checking whether the stored packet has an error at the action time (col. 6, lines 1-19);

transmitting the packet to a higher layer system if the packet has no errors (col. 4, lines 48-67 and col. 8, lines 11-29).

Regarding claim 15, Wegrzyn teaches a packet service method for a base station controller (BSC) in a mobile communication system, comprising the steps of:

storing a packet received from a base station transceiver sub-system (BTS) col. 9, lines 44-67);

determining whether a sequence of the packet is valid or not by checking a sequence number set in the packet (see col. 8, lines 11-65, and col. 24, lines 31-44);

transmitting the packet to a high layer system if the packet sequence is valid (col. 4, lines 48-67 and col. 8, lines 11-29) and discarding the packet if the packet sequence is invalid (see col. 20, lines 19-35);

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Regarding claim 16, Wegrzyn teaches a packet service method in a mobile communication system, comprising the steps of:

adding a field containing time information necessary for packet transmission on a radio link (col. 4, lines 48-67, transmission link 18, or 20 means a radio link) to a packet to be transmitted for a mobile station (MS) in a base station controller (BSC) (see col. 10, lines 54-65, and col. 2, lines 31-48, a time stamp means a field containing time information) and transmitting the packet including the field from the BSC to a base station transceiver sub-system (BTS) (see Fig. 1, Fig. 2, Fig. 4, col. 9, lines 44-67, and col. 4, lines 48-67, 'a channel element (CE) 22 contains items 24, 26, 28, 30, 32 " means a base station transceiver sub-system (BTS));

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storing the packet received from the BSC in the BTS (col. 9, lines 44-67);

determining whether a current time is an action time based on the time information set in the field of the packet in the BTS (col. 6, lines 56-67, col. 10, lines 54-67, and col. 33, lines 42-45);

transmitting the packet from the BTS to the MS on a radio link at the action time (col. 4, lines 48-67 and col. 8, lines 11-29);

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Regarding claim 17, Wegrzyn teaches the packet service method of claim 14, wherein the action time is a time set in the field (see col. 33, lines 42-45).

Regarding claim 18, Wegrzyn teaches the packet service method of claim 14, wherein the action time is the sum of a time set in the field and a pre-negotiated time (see col. 35, lines 44-67).

Regarding claim 19, Wegrzyn teaches the packet service method of claim 14, further comprising the step of adding a field containing a sequence number of the packet to the packet in the BSC (see col. 2, lines 29-58).

Regarding claim 20, Wegrzyn teaches the packet service method of claim 14, wherein the time information includes a waiting time for which the packet waits to be transmitted until there is an available radio link (col. 13, line 55-to-col. 14, line 13, and col. 11, lines 37-52, the processing resource means a radio link), further comprising the step of discarding the packet if the packet is not transmitted until the waiting time expires (see col. 11, lines 12-52).

Regarding claim 21, Wegrzyn teaches a packet service method in a mobile communication system, comprising the steps of:

storing a packet received from a mobile station (MS) in a base station transceiver sub-system (BTS) col. 9, lines 44-67.), adding a field containing a sequence number of the packet to the packet in the BTS (col. 4, lines 48-67, transmission link 18, or 20 means a radio link), and transmitting the packet including the field from the BTS to a base station controller (BSC) (lines 44-67, and col. 4, lines 48-67, "a channel element (CE) 22 contains items 24, 26, 28, 30, 32 " means a base station transceiver sub-system (BTS));

determining whether a sequence of the packet is valid or not by checking the sequence number set in the header of the packet in the BSC (col. 6, lines 56-67, col. 10, lines 54-67, and col. 33, lines 42-45);

transmitting the packet from the BSC to a high layer system if the packet sequence is valid (col. 4, lines 48-67 and col. 8, lines 11-29) and discarding the packet if the packet sequence is invalid (see col. 20, lines 19-35);

wherein the BTS is connected to the MS in a handoff state (col. 4, lines 48-57).

Response to Arguments

2. Applicant's arguments filed March 3, 2006 have been fully considered but they are not persuasive.

On p. 7, lines 10-11, the applicant argues regarding claims 1-21 that the reference of Wegrzyn did not mention any Base station Transceiver Sub-system (BTS)

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plus the communication between the BSC and BS. The examiner respectfully disagreed.

The examiner regards from Wegrzyn fig. 1 that the CE 22 may be regarded as the BTS; hence, there is communication between BSC 21 and CE 22. The entire Base Station 12 of fig. 1 may be viewed by one with ordinary skill in the art as an equivalent to a Radio Access Network (RAN) connecting to Land-based Network 14.

On p. 8, lines 1-4, the applicant argues regarding the amended claims that the usage of time information by Wegrzyn differs from that of the claimed invention. The examiner respectfully disagrees.

The examiner properly interprets the claim language, which requires the packet to include the time information for transmission from a BTS to a MS. Regarding the limitation "wherein BTS is connected to the MS in a handoff state", Wegrzyn describes a state with a plurality of Base Stations (fig. 1, 12) is communicating with one or more mobile units 16, where is regarded as the "handoff" state.

On p. 8, lines 6-11, the applicant argues that Wegrzyn teaches a method describing messaging for a paging channel, which differs from the claimed invention where it teaches a circuit-to-packet conversion scheme, with timestamp added to packets, for MS communication handoff scenario. The examiner respectfully disagrees.

Similarly, the examiner noted that the claimed language has not been written which requires (1) a circuit-to-packet conversion and (2) that the timestamp is used (describe in detail) for a MS handoff.

On p. 8, lines 13-18, the applicant argues that Wegrzyn teaches the use of message arrival time in a BS for message scheduling, which differs from the invention where the packet's time information is "a time when a BTS has to transmit a packet to a MS or a maximum waiting time allowed for packet transmission". The examiner respectfully disagrees.

The examiner understands that Wegrzyn's message arrival time is used to determine the time when the packet has to be transmitted to a MS (maximum waiting time allowed for packet transmission): col. 3, lines 18-21, "no message, even one of the lowest priority [unslotted], is left on any queue indefinitely even at the highest traffic level".

Hence, Wegrzyn meets all limitations to claims 1-21.

Conclusion

3. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Warner Wong whose telephone number is 571-272-8197. The examiner can normally be reached on 6:30AM - 3:00PM, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Warner Wong
Examiner
Art Unit 2616

WW


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SUPERVISORY PATENT EXAMINER